US Army Medical Research and Materiel

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Antifungal and Antiparasitic Compounds

This invention provides novel antiparasitic and antifungal compositions for human and veterinary treatment or prevention of parasitic infection. It also discloses novel mechanisms of identifying antifungal and antiparasitic compositions by their biochemical action on lipid synthesis, metabolism, or excretion. Selection of the compounds was based on evidence from ethnomedical and ethnobotanical drug discovery research and background literature reviews.

The compounds represent novel, efficacious, and less toxic alternatives to current antiparasitic and antifungal treatments, specifically those against leishmaniasis, trypanosomiasis, and trichomoniasis. They have been identified as inhibiting lipid metabolism, either directly or indirectly, and either singly or in combination. The compounds, in most cases, are not chemically related by structure or chemical class to each other. Rather, the compounds are identified as antiparasitics or antifungals based on their mechanism of physiologic action. Many of the compounds are already FDA-approved and marketed for human use for nonparasitic or nonfungal indications. Thus, the human pharmaco-kinetics for oral absorption, elimination rates and mechanisms, and dose-related toxicity are already known.

Features and advantages:

- **Could easily assay compounds to confirm their antiparasitic or antifungal activity**
- **Many compounds are already approved by the FDA for use**
- **Could potentially combine compositions to inhibit metabolism at different points**

Patent Status

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